MARSHALL STAR

Serving the Marshall Space Flight Center Community

March 13, 2003

Teams get ready to roll in 10th 'Moonbuggy' race

High schools, colleges to compete April 11-12

by Jack Robertson

Imagine designing and building a human-powered vehicle for two that fits in a space about the size of a medium desk or entertainment center.

Your vehicle needs to be quickly assembled, easy to maneuver, and capable of surviving shocks from rugged terrain. Not to mention ... fast!

Balancing those requirements makes for a unique challenge and that's the assignment facing 68 student teams now getting ready for NASA's 10th annual "Great Moonbuggy Race." The teams — representing high schools and colleges from 20 states

*See **Moonbuggy** on page 3*

Initial requirements set for Orbital Space Plane system

NASA Headquarters release

NASA has released the top-level requirements for the Orbital Space Plane (OSP), a next-generation system of space vehicles designed to provide a crew rescue and crew transport capability to and from the International Space Station.

These requirements set the foundation for the design of the vehicle and its associated systems.

The Level I requirements for an OSP system were developed based on NASA's missions, as defined in the Integrated Space Transportation Plan, and input from industry and Department of Defense partners participating in the program. The requirements were reviewed at multiple levels within NASA. The final review

*See **Space Plane** on page 2*

Marshall Imaging Services

STS-113 and Expedition Five crew members to visit Marshall Center

Space Shuttle crew members Cmdr. James Wetherbee, Pilot Paul Lockhart and Mission Specialists Michael Lopez-Alegria and John Herrington will visit the Marshall Center on Tuesday. Expedition Five crew member and International Space Station Science Officer Dr. Peggy Whitson, right photo, also will visit. Mission highlights will be presented at 10:30 a.m. in Morris Auditorium. All Marshall team members are encouraged to attend. Silver Snoopy Awards will be presented in the afternoon.

A proclamation: Women's History Month

By the President of the United States of America

As our Founding Fathers worked to develop the framework of our Nation, Abigail Adams wrote to her husband: "I long to hear that you have declared an independency — and by the way in the new Code of Laws which I suppose it will be necessary for you to make I desire you would remember the ladies, and be more generous and favorable to them than your ancestors."

An early advocate of women's rights, a farm and financial manager, and the mother of an American President, John Quincy Adams, Abigail Adams is one of many American women who helped establish the strength and vitality of our Nation.

During Women's History Month, we recognize the generations of American women whose important contributions continue to shape our Nation and enrich our society.

Through vision, hard work, and determination, countless American women have broadened opportunities for themselves and for others at home, in the community, and in the workplace.

In 1809, Mary Kies became the first woman to receive a U.S. patent. By developing a method of weaving straw with silk, she helped advance American industry and set an inspiring example for other American women. Her pioneering efforts helped define our country's entrepreneurial spirit and paved the way for future generations of women to take pride in their talents and creativity.

Since Mary Kies' groundbreaking achievement, many American women have become successful entrepreneurs and business professionals.

In 1905, Madam C.J. Walker started her own business by creating and selling hair care products for African-American women. After a decade, her company was highly successful and employed more than 3,000 people, and at the time, was the largest African-American owned business in the United States. Today, Madam Walker is remembered for her business accomplishments, efforts to create new opportunities for women, and for her contributions to her community.

Driven by the legacy of these extraordinary figures, American women from all backgrounds continue to break barriers and fulfill their personal and professional potential. At the dawn of the 21st century, women have more choices than ever before. Between 1992 and 2002, the number of female college graduates in the United States has increased from 15.9 million to 23.6 million. Women account for 47 percent of all employed persons and are entering the American workforce in record numbers. In the last 10 years, their ranks have increased by 8.7 million.

Furthermore, women-owned small businesses are growing twice as fast as all other U.S. firms, employing 7 million Americans and contributing to the vitality of our economy. To build on these successes, my Administration will continue our work to promote policies that advance the aspirations, hopes, and dreams of every American.

This month, as we celebrate remarkable women in our Nation's past, I encourage all citizens to recognize the countless American women whose efforts continue to enhance the economic, social, and cultural life of our great Nation.

NOW, THEREFORE, I, GEORGE W. BUSH, President of the United States of America, by virtue of the authority vested in me by the Constitution and laws of the United States, do hereby proclaim March 2003 as Women's History Month. I call upon all the people of the United States to observe this month with appropriate ceremonies and activities and to remember throughout the year the many contributions of American women.

IN WITNESS WHEREOF, I have hereunto set my hand this twenty-eighth day of February, in the year of our Lord two thousand three, and of the Independence of the United States of America the two hundred and twenty-seventh.

George W. Bush
President of the United States

Space Plane

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and approval process included the NASA administrator, deputy administrator, associate administrator for the Office of Aerospace Technology, and the associate administrator for the Office of Space Flight.

"This is an important first step in making the Integrated Space Transportation Plan a reality," said NASA Deputy Administrator Frederick Gregory. "The Orbital Space Plane system will give us the flexibility needed to safely and efficiently get crew to and from orbit and to provide crew rescue and logistical support to the International Space Station. These initial requirements help to outline a comprehensive system that will significantly complement the capabilities of our existing Space Shuttle fleet."

Any future changes to the Level I Requirements would be considered by the Orbital Space Plane Program Office and require approval from the NASA Executive Council.

The program is in the process of developing Level II Requirements for the OSP system. Unlike the Level I requirements, which were defined by NASA, Level II requirements will be defined at the program level and will be detailed in a document referred to as the Systems Requirements Document (SRD) planned for release no later than late 2003.

The requirements are available on the Internet at http://www.slinews.com/ospreq1.html.

Rick Helmick named to key NASA Information Technology position

by Sherrie Super

Richard A. (Rick) Helmick, a longtime employee at the Marshall Center, has been named deputy chief information officer for operations, and program executive for the NASA Information Services Systems Utility.

In his new job, Helmick is responsible for leading development and operation of NASA-wide information technology services. He also will implement a new computer network to consolidate the space agency's existing information technology services at NASA Headquarters and the 10 NASA field centers across the country.

Helmick will perform the functions of his new job from the Marshall Center.

Helmick joined the Marshall Center in 1981 and then became the network systems division chief in the Communications Office in 1982. In 1987, he was named systems engineering and applications division chief in the Information Systems Office, where he was responsible for the design and implementation of Marshall's information technology systems, and agency's communications network. In 1996, he became deputy manager of the Information Services Department, a position he held until this promotion.

Marshall Imaging Services

Helmick

Prior to joining NASA, Helmick was a civilian communications project engineer for nine years with the U.S. Army.

Helmick is a native of Salem, W.Va., and graduated from Salem College with a bachelor's degree in physics in 1969. He earned a master's degree in 1977 in electrical engineering from Drexel University in Philadelphia.

Federal Computer Week magazine recently named Helmick among the top 100 executives from government, industry and academia who had the greatest impact on the government information systems community in 2002.

The writer, an employee of ASRI, supports the Media Relations Department.

Moonbuggy

Continued from page 1

and Puerto Rico — will race their moonbuggies over lunar-like terrain at the U.S. Space & Rocket Center.

The event will feature high school teams competing on April 11th and college teams on April 12th. Winners in the separate divisions are determined by fastest vehicle assembly time, plus time through the course. An additional prize is awarded to the team with the best technical approach to solving the engineering problem of navigating the "lunar" surface. The competition requires more than quickness and physical endurance because students must use a wide range of skills to design, engineer and build their moonbuggy.

The obstacles can be daunting, but a well-designed moonbuggy and top-notch teamwork make the difference. Action photos of the 2002 high school and college winners conquering the course are available at: http://www1.msfc.nasa.gov/NEWSROOM/news/photos/2002/photos02-088.html and at http://www1.msfc.nasa.gov/NEWSROOM/news/photos/2002/photos02-089.html.

"The Great Moonbuggy Race" is inspired by development some 30 years ago of the Lunar Roving Vehicle, a program managed by the Marshall Center. The lunar roving vehicle team had to design a compact, lightweight "all-terrain vehicle" that could be transported to the Moon aboard the Apollo spacecraft.

The Moonbuggy competition challenges students to design and build a human-powered vehicle and, in the process, overcome engineering problems similar to those faced by the original team of NASA and industry engineers.

For instance, the vehicle must occupy a space no more than 4 feet by 4 feet by 4 feet before assembly — timed with a stopwatch — prior to the race. During the race, two team members, one male and one female, power and drive each vehicle over a half-mile obstacle course of simulated moonscape terrain.

"We have an excellent field of teams for this year's races," said Durlean Bradford, Great Moonbuggy race coordinator in the Education Programs Department at the Marshall Center. "We're glad to see so many schools coming back, year after year, building on their experience. Plus several new teams have signed up for the first time. So, we're looking forward to an exciting event."

The annual event is sponsored by the Marshall Center, U.S. Space & Rocket Center, American Institute of Aeronautics and Astronautics Alabama-Mississippi Section, Aerospace Development Center of Alabama, Morgan Research Corp., and television station WHNT, all of Huntsville.

Event details, a full listing of the competing teams, race rules, information on the course and photos from previous competitions can be found at the "Great Moonbuggy Race" Web site at: http://moonbuggy.msfc.nasa.gov.

The writer, an employee of ASRI, supports the Media Relations Department.

A cocoon found inside the 'Black Widow's Web'

from the Smithsonian's Chandra X-ray Center

NASA's Chandra X-ray Observatory image of the mysterious "Black Widow" pulsar reveals the first direct evidence of an elongated cocoon of high-energy particles.

A pulsar is a rotating neutron star producing powerful beams of radiation that sweep like a searchlight. This discovery shows this billion-year-old rejuvenated pulsar is an extremely efficient generator of a high-speed flow of matter and antimatter particles.

Known officially as pulsar B1957+20, the Black Widow received its nickname because it is emitting intense high-energy radiation that is destroying its companion through evaporation. B1957+20, which completes one rotation every 1.6-thousandths of a second, belongs to a class of extremely rapidly rotating neutron stars called millisecond pulsars.

The motion of B1957+20 through the galaxy, almost a million kilometers per hour, creates a bow shock wave visible to optical telescopes. The Chandra observation shows what cannot be seen in visible light: a second shock wave. This secondary shock wave is created from pressure that sweeps the wind back from the pulsar to form the cocoon of high-energy particles, visible for the first time in the Chandra data.

"This is the first detection of a double-shock structure around a pulsar," said Benjamin Stappers, of the Dutch Organization for Research in Astronomy (ASTRON), lead author on a paper describing the research that appeared in the Feb. 28, issue of Science magazine. "It should enable astronomers to test theories of the dynamics of pulsar winds and their interaction with their environment," he said.

Scientists believe millisecond pulsars are very old neutron stars that have been spun up by accreting material from their companions. The steady push of the in-falling matter spins it up in much the same way as pushing on a merry-go-round makes it rotate faster.

The result is an object about one-and-a-half times as massive as the Sun, 10 miles in diameter rotating hundreds of times per second. The advanced age, very rapid rotation rate and relatively low magnetic field of millisecond pulsars put them in a totally separate class from young pulsars observed in the remnants of supernova explosions.

"This star has had an incredible journey. It was born in a supernova explosion as a young and energetic pulsar, but after a few million years grew old and slow and faded from view," said Bryan Gaensler of the Harvard-Smithsonian Center for Astrophysics in Cambridge, Mass., a coauthor of the paper. "Over the next few hundred million years, this dead pulsar had material dumped on it by its companion, and the pulsar's magnetic field has been dramatically reduced.

"This pulsar has been through hell, yet somehow it's still able to generate high-energy particles just like its younger brethren," Gaensler continued.

The key is the rapid rotation of B1957+20. The Chandra result confirms the theory that even a relatively weakly magnetized neutron star can generate intense electromagnetic forces and accelerate particles to high energies to create a pulsar wind, if it is rotating rapidly enough.

Chandra's Advanced CCD Imaging Spectrometer observed B1957+20 for over 40,000 seconds on June 21, 2001. Other members of the research team include Victoria Kaspi of McGill University, Montreal, Michiel van der Klis of the University of Amsterdam, and Walter Lewin of the Massachusetts Institute of Technology, Cambridge.

The Marshall Center in Huntsville, Ala., manages the Chandra program, and TRW, Inc., Redondo Beach, Calif., is the prime contractor for the spacecraft. The Smithsonian's Chandra X-ray Center controls science and flight operations from Cambridge, Mass., for the Office of Space Science at NASA Headquarters, Washington.

Images and additional information about this result are available at: http://chandra.harvard.edu/ and http://chandra.nasa.gov/.

Courtesy photo/Marshall Imaging Services

Disposal Operations donates to schools

Students at John S. Jones Elementary School in Rainbow, Ala., enjoy computers donated by the Marshall Center's Disposal Operations in the Logistics Services Department in the Center Operations Directorate. March is Logistics Services Month and the Marshall Center has donated 668 items valued at more than $2.8 million to schools in Alabama, Tennessee, Georgia and Mississippi during the past year. Disposal Operations also is partnering with the General Services Administration to offer sales of surplus NASA property at Marshall through the GSA's Web site at www.gsaauctions.gov.

NASA solves half-century-old Moon mystery

JPL news release

In the early morning hours of Nov. 15, 1953, an amateur astronomer in Oklahoma photographed what he believed to be a massive, white-hot fireball of vaporized rock rising from the center of the Moon's face.

If his theory was right, Dr. Leon Stuart would be the first and only human in history to witness and document the impact of an asteroid-sized body impacting the Moon's scarred exterior.

After almost a half-century, numerous space probes and six manned lunar landings later, what had become known in astronomy circles as "Stuart's Event" was still an unproven, controversial theory. Skeptics dismissed Stuart's data as inconclusive and claimed the flash was a result of a meteorite entering Earth's atmosphere. That is, until Dr. Bonnie J. Buratti, a scientist at NASA's Jet Propulsion Laboratory in Pasadena, Calif., and Lane Johnson of Pomona College in Claremont, Calif., took a fresh look at the 50-year-old lunar mystery.

"Stuart's remarkable photograph of the collision gave us an excellent starting point in our search," Buratti said. "We were able to estimate the energy produced by the collision. But we calculated that any crater resulting from the collision would have been too small to be seen by even the best Earth-based telescopes, so we looked elsewhere for proof."

Buratti and Lane's reconnaissance of the 21.75-mile wide region where the impact likely occurred led them to observations made by spacecraft orbiting the Moon. First, they dusted off photographs taken from the Lunar Orbiter spacecraft back in 1967, but none of the craters appeared a likely candidate. Then they consulted the more detailed imagery taken from the Clementine spacecraft in 1994.

"Using Stuart's photograph of the lunar flash, we estimated the object that hit the Moon was approximately 65.6 feet across, and the resulting crater would be in the range of .62 to 1.24 miles across. We were looking for fresh craters with a non-eroded appearance," Buratti said.

Part of what makes a Moon crater look "fresh" is the appearance of a bluish tinge to the surface. This bluish tinge indicates lunar soil that is relatively untouched by a process called "space weathering," which reddens the soil. Another indicator of a fresh crater is that it reflects distinctly more light than the surrounding area.

Buratti and Lane's search of images from the Clementine mission revealed a 0.93-mile wide crater. It had a bright blue, fresh-appearing layer of material surrounding the impact site, and it was located in the middle of Stuart's photograph of the 1953 flash. The crater's size is consistent with the energy produced by the observed flash — it has the right color and reflectance — and it is the right shape.

Having the vital statistics of Stuart's crater, Buratti and Lane calculated the energy released at impact was about .5 megatons — 35 times more powerful than the Hiroshima atomic bomb. They estimate such events occur on the lunar surface once every half-century.

"To me this is the celestial equivalent of observing a once-in-a-century hurricane," Buratti said. "We're taught the Moon is geologically dead, but this proves that it is not. Here we can actually see weather on the Moon."

While Dr. Stuart passed on in 1969, his son Jerry Stuart offered some thoughts about Buratti and Lane's findings. "Astronomy is all about investigation and discovery. It was my father's passion, and I know he would be quite pleased," he said.

Buratti and Lane's study appears in the latest issue of the space journal, Icarus.

The NASA Planetary Geology and Planetary Astronomy Programs and the National Science Foundation funded Buratti's work. The California Institute of Technology manages JPL for NASA.

Galileo team disbanding as long Jupiter tour winds down

JPL news release

The flight team for NASA's Jupiter-orbiting Galileo spacecraft ceased operations on Feb. 28 after a final playback of scientific data from the robotic explorer's tape recorder.

The team has written commands for the onboard computer to manage the spacecraft for its short remaining lifetime. Galileo will coast for the next seven months before transmitting a few hours of science measurements in real time, leading up to a Sept. 21 plunge into Jupiter's atmosphere.

"This mission has exemplified successful team efforts to overcome obstacles to make outstanding discoveries," said Dr. Eilene Theilig, Galileo project manager at NASA's Jet Propulsion Laboratory, Pasadena, Calif. "While the team is sad to see it come to an end, there is great pride in Galileo's remarkable accomplishments."

In the years since astronauts deployed Galileo from the cargo bay of Space Shuttle Atlantis in 1989, the mission has produced a string of discoveries about asteroids, a fragmented comet, Jupiter's atmosphere, Jupiter's magnetic environment, and especially about the geologic diversity of Jupiter's four largest moons. The prime mission ended six years ago, after two years of orbiting Jupiter. NASA extended the mission three times to continue taking advantage of Galileo's unique capabilities for accomplishing valuable science.

Now, the onboard supply of propellant is nearly depleted. Without propellant, the spacecraft would not be able to point its antenna toward Earth nor adjust its trajectory, so controlling the spacecraft would no longer be possible. Before that could happen, the flight team put Galileo on course for disposal by a dive into the crushing pressure of Jupiter's atmosphere. This strategy eliminates any possibility of an unwanted impact between the spacecraft and the moon Europa. Galileo's discovery of a likely subsurface ocean on Europa has raised interest in the possibility of life there and concern about protecting it.

*See **Galileo** on page 6*

Obituaries

Alessandro "Alex" James D'Agostino, 78, of Huntsville, died March 1. Burial was in Maple Hill Cemetery with Twickenham Funeral Home directing.

D'Agostino was born July 26, 1924, in Cook County, Ill., and grew up in the Chicago area. He was a World War II veteran of the 15th Air Force 29th Bomb Group – serving as a radio/gunner on 29 missions in a B-17 "Flying Fortress" in the European Theater. He received the Air Medal and Distinguished Flying Cross and was active in the Veterans of Foreign Wars and American Legion. He was an engineer at the Marshall Center working in the Mercury, Gemini, and Space Shuttle programs before retiring as AST, structural mechanics, in 1981. He was the widower of June Elizabeth Kern D'Agostino.

D'Agostino is survived by one son, Daniel D'Agostino of Satellite Beach, Fla., and one daughter, Lisa Ann D'Agostino of Huntsville; and three grandchildren.

George W. Turney, 84, of Huntsville, died March 2. Burial was in Hartselle Cemetery with the Rev. Ronald W. Boulware officiating and Laughlin Service Funeral Home directing.

Turner was born Oct. 29, 1918, and was a World War II veteran. He retired from the Marshall Center in 1989 as a general supply specialist and was a member of Hillsboro Heights Baptist Church. He was the widower of Clara Boyce Turney.

He is survived by one son, Steven G. Turney of Huntsville; one daughter, Diane Smith of Jonesboro, Ga.; two sisters, Dove Anderson of Casper, Wyo., and Coise Clemmons of Decatur; five grandchildren; and five great-grandchildren.

Job Announcements

MS03C0054, Systems Accountant. GS-510-12 (promotion potential to GS-13), Office of Chief Financial Officer, IFMP Administrative Systems Implementation Project Office. Competitive Placement Plan. Closes March 24.

MS03C0055, Accountant. GS-510-13 (promotion potential to GS-14), Office of Chief Financial Officer, Accounting Operations Office. Competitive Placement Plan. Closes March 18.

MS03C0058, AST, Solid Propulsion Systems. GS-0861-14, Space Shuttle Propulsion Office. Closes March 13.

MS03N0059, Supv., AST, Engineering Project Management. GS-801-15, Space Transportation Directorate, Next Generation Launch Technology Projects Office. Notice/Reassignment. Closes March 17.

Galileo

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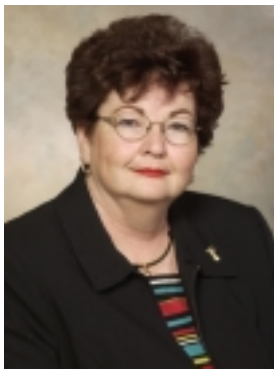
On Nov. 5, 2002, the orbiter passed closer to Jupiter than it had ever ventured before, flying near an inner moon named Amalthea and through part of Jupiter's gossamer ring to begin its 35th and last orbit around the giant planet. This elongated farewell loop will take Galileo farther from Jupiter than it has been since before it entered orbit in 1995, to a point more than 16 million miles away on April 14 before heading back in for impact.

Scientific data recorded on the tape recorder during last November's flyby have been gradually played back for transmission to Earth since the flight team repaired radiation damage to the tape recorder in December.

"We have no further activities planned until the day of impact," Theilig said.

The Galileo flight team numbered about 300 people at its peak during the prime mission, but has run much leaner in recent years, with about 30 since the Amalthea flyby. That smaller team is now disbanding, mostly to work on other JPL-managed NASA missions that are in development or already flying.

Additional information about the mission and its discoveries is available on-line at http://galileo.jpl.nasa.gov.



Photos by Emmett Given/Marshall Center

Fischer

Earth Day logo contest winner

Lana Fischer, left, a contract specialist in Procurement Support for the Materials and Processes Lab, created the winning logo for the Marshall Center's 2003 Earth Day Celebration. Fischer "is an artist at heart" and enjoys gardening. She worked "to stay with the theme 'Let's Talk Trash' to depict the Earth's part in recycling from our trash. Hence, the sunflower protectively embracing the Earth in it's leaves while growing out of a trash can. Earth Day is extremely important to me. I was an environmentalist long before it was popular and practice recycling at home," she said. For her efforts, Fischer won $50 to be presented at Earth Day ceremonies April 23. Her winning logo will be used on this year's Earth Day T-shirts.

Center Announcements

Women's History Month event at Marshall is March 20

To commemorate Women's History Month at the Marshall Center, Dr. Sheri M. Shuck, assistant professor of history at the University of Alabama in Huntsville, will speak from 1-2 p.m. March 20 in Bldg. 4200, Room P-110. All Marshall team members are invited. She will discuss women in the workplace -- past, present and future. For more information, call Billie Swinford at 544-0087.

NASA College Scholarship Fund seeking applications

The 2003 call for NASA College Scholarship Fund applications is open. The Fund awards scholarships to qualified NASA dependents pursuing study in science and engineering fields. Six scholarships will be awarded. Deadline for applications and supporting documentation is March 21. Applications are available at Bldg. 4315, or at http://jscpeople.jsc.nasa.gov/nasascholarship.htm. For more information, call Bill Mayo at 544-7220.

Marshall Association membership drive open

Membership in the Marshall Association is open to all current and former Marshall civil service employees. The Association provides distinctive speaker events for the exchange of ideas and information and sponsors two annual college scholarships for Marshall dependents. Dues are $25 per year and checks should be made out to the "Marshall Association" and sent to AD01, Cliff Bailey.

Nominations for Full-Time Study Program open

The call for nominations for the Full-Time Study Program is open. For details, contact administrative officers.

MARS Tennis Club membership open

The MARS Tennis Club 2003 membership drive is open until March 31. NASA employees, retirees, on-site contractors and family members are eligible to join. To join, or for more information, call Amy Hemken at 544-7097 or go to http://inside.msfc.nasa.gov/MARS/clubs.html.

'Take Our Children to Work Day' volunteers needed

Volunteers are needed to serve as tour bus chaperones and workshop monitors for the Marshall Center's "Take Our Children to Work Day" activities April 24. For more information, or to volunteer, call Billie Swinford at 544-0087.

AIAA 2003 Engineering Scholarship Program open

The American Institute of Aeronautics and Astronautics Alabama-Mississippi Section 2003 Engineering Scholarship Program is open for high school seniors. Three scholarships will be awarded in the amounts of $1,500, $1,000, and $500 to promote career study in the aerospace industry and the pursuit of a related engineering or science degree at an Alabama or Mississippi university. Applications are due by March 31. For more information and applications, go to http://www1.msfc.nasa.gov/AIAA/ or call 721-2422, 544-7684 or 782-5972.

Annual 'Software of the Year' competition nominations open

The annual call for nominations for the NASA Software of the Year Award is open until April 18. The award is for recognition of software developed and owned by NASA. The recognition includes a Space Act award of up to $100,000. For details, see "Inside Marshall" or call 544-0013 or 544-0014.

2003 Marshall Retiree Dinner set for September

The 2003 Marshall Center annual Retiree Dinner is tentatively set for Sept. 9 at the Von Braun Center. Invitations and ticket information will be available by mid-August. For more information, call Edwina Bressette at 544-8115.

Shuttle Buddies to meet

The Shuttle Buddies will meet at 9 a.m. March 24 at Mullins Restaurant on Andrew Jackson Way in Huntsville. For more information, call Deemer Self at 881-7757.

Blue Angels to headline Air Show at Huntsville International

The U.S. Navy's Blue Angels will bring their world-renowned jet demonstration to an air show March 29-30 at Huntsville International Airport. Admission is free but there is a charge for parking. The Marshall Center will have display exhibits at the event. The air show also will include other aerial acts and ground displays from all aspects of aviation and aeronautics. Upcoming details will be on "Inside Marshall" and in the Marshall Star.

FAPAC national leadership conference registration open

The 18th annual Federal Asia Pacific American Council National Leadership Training Conference will be May 12-16 in Arlington, Va., and Washington, D.C. Registration is due by April 26. Programs and workshops will focus on legislative issues, career development, civil rights, glass ceiling, diversity, and retirement and investment issues. For more information, go to conference@fapac.org or http://www.fapac.org.

Marshall Association meeting set for April 1

The Marshall Association will meet from 11:30 a.m.-1 p.m. April 1 at the Redstone Officers' and Civilians' Club. Capt. Mark A. Hugel, commander of the Norfolk Naval Shipyard, will speak. Cost is $9, payable at the door. Reservations are required and can be made by e-mail or by calling Cliff Bailey at 544-5482.

Employee Ads

Miscellaneous

★ Visor-Prism: includes software, leather case, backup module, gamepack, book, 2 cradles, travel charger, $200. 885-6006
★ Deluxe bicycle child carrier seat, $20. 881-8674
★ Fiberglass truck lid for long bed pickup (F150), red, best offer. 256-852-5010
★ Two oak end tables, $100 each or $150 for both. 247-5197
★ Quality-Rest adjustable bed w/bedding, $1,500; 1991 Longaberger corn basket, J. D. Collection, w/box, $350. 256-233-5685
★ New American racing, polished Snipers w/Michelin 225/55/17s, 5-lug FWD GM, $700. 830-5783
★ Aquarium, corner unit, 44-gallon, w/salt water fish, $350; Total tiger exercise equipment w/video, $50. 653-4240
★ 2002 Yamaha XL700 Wave-runners, three to choose from, $4,500 each obo. 316-1505
★ French Provincial dining set: cherry, table w/three leaves, 6-chairs, triple glass-front china cabinet, buffet. 881-0883
★ Basset children's bedroom furniture: sleigh bed, twin; chest, dresser w/swing mirror; Cherry finish, $500. 233-8595
★ Rough-cut Cherry lumber, approx. 1000', $1.50 per foot. 883-9884
★ Upright piano with bench, tuned, $500. 859-1947
★ AKC Registered Australian Shepherd puppies, first shots, wormed, 2 females, 4 males, $350. 828-3668
★ Kenmore washer, $100; Hot Point dryer, $95; cooktop, drop-in, 30", stainless steel, $75. 837-6649
★ Two tickets to Broadway Theatre League play, South Pacific, Orchestra, Row K, $30 each. 881-6077
★ Antique steamer trunk, 41"x22"x23", $175. 880-9025
★ King waterbed, light oak/oak veneer, semi-waveless, lighted headboard w/ smoked glass doors, $300. 461-8721
★ Lawnmower, Jacobsen Crew-King F-48, 48" cut, Kohler 14HP, self-propelled walk behind, 5-speed, $400. 379-3606
★ OSB: 3/4" T&G, 30 sheets, $10 per sheet; 7/16", 55 sheets, $6 per sheet. 256-851-1854 lv. msg.
★ Used lawn edging including pegs, 6 pieces, $1 per piece. 881-0755
★ 13" Delta planer w/stand, model DC-33, 3hp 120/240 1ph, make offer. 830-1775
★ 19" Dell CRT, $100, 9" Viewsonic flat screen CRT, $200.
★ 1987 Astroglass Boat, 18ft, 150 HP Mercury, Hummingbird Fishfinders, 45# TM, loaded. 256-961-4178
★ 1996 Sugar Sand Mirage 16ft. 12HP Jet SKI/Fishing Boat. Trolling Motor. Garaged, $4,000. 603-5279
★ HO Train Supplies. All unopened Atlas products. Track, switches, crossings, electrical block controllers, turntable. 306-0700/303-3702

Vehicles

★ 2000 Ford Contour SVT, leather, red, extended warrantee, 29.5K miles, $11,500. 881-2131
★ 1994 Thunder Bird LX, silver, all-power, 160K miles, $2,995. 353-8229/ Decatur
★ 1996 Dodge Intrepid ES, white, approx. 90K miles, $6,300. 883-9884
★ 2000 Dodge Caravan SE, white, 30K miles, $13,500. 256-828-2832
★ 1997 Ford Thunderbird, V8, leather, sunroof, CD, keyless entry, one-owner, 66K miles, $6,500. 721-3945
★ 1994 Mercury Cougar, V6, loaded, sunroof, leather, ground effects, new Michelins, 88K miles, $5,900. 256-227-1100
★ 1995 Dodge Ram 1500, V8, 127K miles, power, auto, cruise, cassette, green, $5,500. 851-7821
★ Lexus IS 300, sport sedan, 5-speed manual, white w/black leather, Navigation, 12K miles, $27,500. 881-8130
★ 1997 Ford F150 Lariat, ext. cab, leather, loaded, 5.4L/V8, 58K miles, new tires, $11,500. 256-775-2715/426-6549
★ 1999 Lexus ES300, white, loaded, 48K, rebuilt title, $14,900. 256-757-2850
★ 1992 Chevy Astro van, extended LT, cassette/CD player, quad captains chairs, rear A/C. 722-8116
★ 1999 Honda CRV-EX, automatic, CD player, AWD, garage kept, one-owner, 46K miles, $13,500. 353-0370/565-3022
★ 1972 Boise motorhome, $5,000; 1980 Datsun 200SX, 5-speed hatchback, $1,500 obo. 256-881-9150
★ 1999 Toyota 4Runner Limited, 4x4, loaded, 98K miles, one-owner, garage kept. 256-232-3059
★ 1998 Lincoln Town Car, Cartier, white exterior, CD changer, power sunroof, 46K miles, $18,500. 256-464-5003
★ 1998 Volvo S90, silver, one-owner, loaded. 74K miles, $11,999. 881-6052/ 651-3977
★ 2000 Handicapped Equipped Oldsmobile Silhouette Van, White, 11.4K miles. Companion Seat. Price Negotiable. 881-1801

Wanted

★ Used books, "The Busy Woman's Fitting Book" and/or "Fitting for Style" by Nancy Zieman. 880-6146
★ Horse tack. 233-4104
★ Small enclosed trailer, job site box, scaffolding, concrete blocks, bricks. 883-2948
★ Chrono Trigger and Final Fantasy II for Super Nintendo Entertainment System. 534-7691.

Found

★ Prescription glasses in case and knit hat. Call 544-3623 to claim/identify
★ Key w/remote at Bldg. 4312. Call 544-3623 to claim/identify
★ Metal keyring, 3 car & 10 lock keys on Neal Road East of Rideout. 544-4611

Lost

★ Gold Seiko watch w/gold band, about 18 yrs. old, in Exchange or Bldg. 4200 Complex areas. 883-2757

Free

★ Puppy, 10-month old, neutered male Chihuahua/Jack Russell mix. 837-8020
★ Black Labrador, 2 yrs. old, neutered, current shots. 882-2958
★ Female Siberian Husky, 3 yrs. old, doesn't play well with cats. 256-753-2459

Trade

★ Aluminum ladder, 24', for a 20' fiberglass ladder. 353-4922

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